

The diagram illustrates a portable FM/AM transceiver circuit. The signal path starts with an antenna connected to an RF amplifier (Q23). The signal then passes through two mixers (CONV.1: Q24,25 and CONV.2: Q1) and an IF amplifier (Q2,3) to an AM detector (D5). The AM detector output goes to an audio amplifier (Q46) and an AM/FM switch (IC4A). The switch also receives input from an FM detector (IC1). The audio amplifier (IC2) drives a speaker. A squelch control (Q5,6) is used to mute the audio when no signal is present. The transmitter section includes a PLL (7234) with a VCO (Q8) and a buffer (Q10). The VCO is controlled by a TX switch (Q9) and a DC amplifier (Q30,31). The VCO output goes through a doubler (Q16) and an RF amplifier (Q15) to an RF drive stage (Q7). The RF drive stage output goes through an RF power stage (Q12) and a low-pass filter to the antenna. The system also includes a 5V regulator (IC6) and a 9V regulator (Q17) for power supply. A backup battery (13.8V) is connected to the 9V regulator. A key matrix is connected to the PLL. A display shows the frequency (40). A volume control is connected to the audio amplifier. A squelch control is connected to the AM detector. A TX switch (Q19) and an RX switch (Q20) are used to switch between transmit and receive modes. A TX B+ control (Q33,34) is used to control the transmitter power. An ALC control (Q13,14) is used for automatic level control. A MIC AMP (IC3B) and a limiter (D9,10) are used for microphone input. A buffer (IC3A) is used for the TX B+ control. An AM/FM switch (IC4B) is used to switch between AM and FM modes. A speaker is connected to the audio amplifier. An external speaker (EXT) is also available. A volume control is connected to the audio amplifier. A squelch control is connected to the AM detector. A TX switch (Q9) and a DC amplifier (Q30,31) are used for the VCO control. A PLL (7234) is used for frequency synthesis. A display shows the frequency (40). A key matrix is connected to the PLL. A 5V regulator (IC6) and a 9V regulator (Q17) are used for power supply. A backup battery (13.8V) is connected to the 9V regulator.

REV.	DATE	NAME	DESCRIPTION
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REV.	DATE	NAME	DESCRIPTION	CHECK
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UNIT	SCALES	SHEET	BUYER NAME : ALBRECHT	
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DRAW.	CHK.	APP.	MODEL NAME : AE 5090	
NIM, J. H. MAY/22/95			DRAWING NO. :	